DIGI-HD-4X4

4 input by 4 output Matrix Switcher

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DESIGN WITH INTELLIGENCE

Rev. 1103

Important Safety Instructions

- **Please completely read and verify you understand all instructions in this manual before operating this equipment.**
- Keep these instructions in a safe, accessible place for future reference.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Use only accessories specified or recommended by Intelix.
- Explanation of graphical symbols:
  - Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.

  - Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions tin the literature accompanying the product.

- **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
- Use the mains plug to disconnect the apparatus from the mains.
- **THE MAINS PLUG OF THE POWER SUPPLY CORD MUST REMAIN READILY ACCESSIBLE.**
- Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
- Do not block the air ventilation openings. Only mount the equipment per Intelix's instructions.
- Use only with the cart, stand, tripod, bracket, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- **Caution!** Shock Hazard. Do not open the unit. Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Overview

Why settle for mediocrity? The Intelix DIGI-HD-4X4 combines a professional-grade HDMI matrix with Intelix's industry-leading extenders. A true matrix switcher, the DIGI-HD-4X4 features four HDMI inputs, four HDMI outputs *and* four twisted pair extender outputs—and both HDMI and twisted pair outputs are live simultaneously. When used in conjunction with a compatible Intelix twisted pair receiver, the matrix extends output signals up to 300 feet over a single twisted pair cable. Trademarked HDshāk processing provides remote EDID storing and enhanced bandwidth limiting, thereby allowing the installer to optionally disable high-bandwidth HDMI elements—such as deep color and HD multi-channel audio—to guarantee performance when using low-grade cables.

The matrix supports 1080i and 1080p high-definition video and is HDCP compliant. All operations are controlled via a diagnostic front panel interface or remotely via RS232, IR, or Ethernet. The system also ships with a wireless remote control and includes a 19" rack-mount kit.

In addition, the DIGI-HD-4X4 also features four pass-through IR channels which distribute remote IR commands from in-room controllers over the twisted pair cable and out of the matrix, thereby allowing complete control of remote sources from the destination. The IR channels follow the matrix switching.

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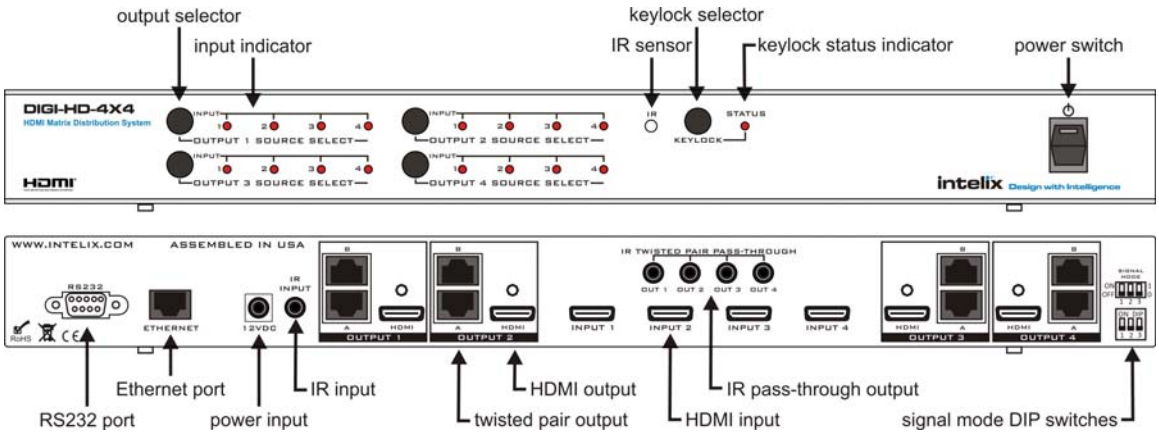
DIGI-HD-4X4 Package Contents

- DIGI-HD-4X4 matrix switcher
- 12 VDC power supply
- (2) 19" rack-mounting ears
- (4) Shelf feet
- Wireless remote control
- Manual
- (4) IR emitters
- (1) IR receiver



Installation

To install the Intelix DIGI-HD-4X4 matrix switcher, please perform the following steps.

1. If mounting in a 19" audio/video rack, attach the 19" rack ears to the DIGI-HD-4X4. The DIGI-HD-4X4 requires 1 rack unit of spacing. If placing on a shelf, attach the shelf feet to the DIGI-HD-4X4.

> *Ventilation when Rack Mounting*
>
> - At least 2 inches of free air space is required on both sides of the DIGI-HD-4X4 for proper side ventilation.
> - Ensure there are no closeable doors on the rack that might seal the DIGI-HD-4X4 from a steady supply of cool air.
> - Avoid mounting the DIGI-HD-4X4 near a power amplifier or any other source of significant heat.
> - It is recommended that you leave an empty rack space above and below the DIGI-HD-4X4 for additional cooling.

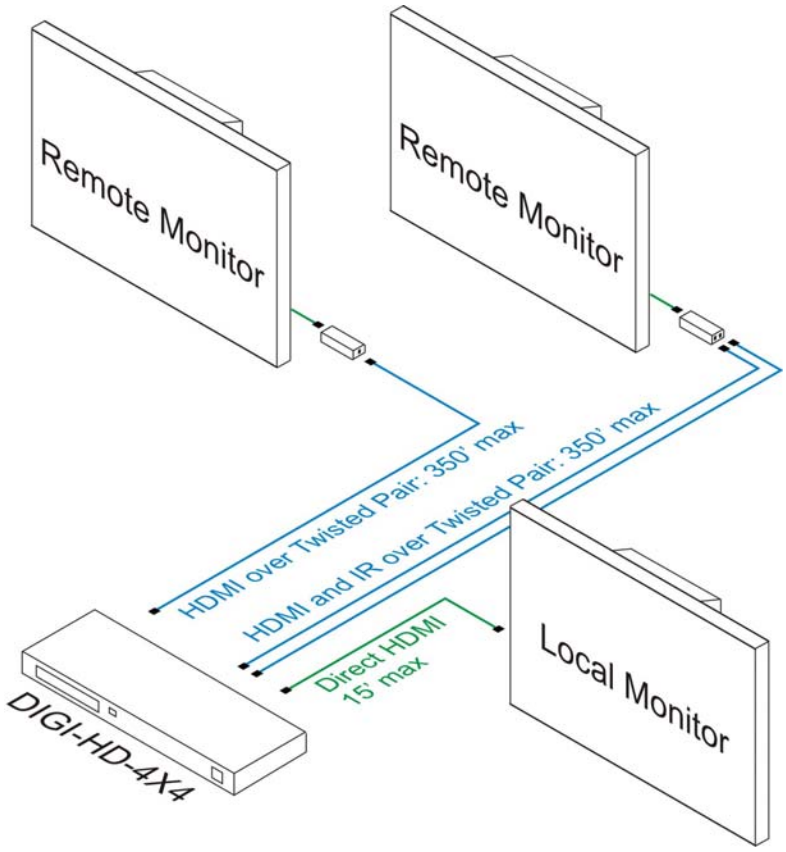
2. Power-off the source and destination audio and video devices.

> **Note:** All connecting audio-visual equipment must be powered off.

3. Connect the input sources to the DIGI-HD-4X4 using high-quality HDMI cables.

4. Connect the output destinations to the DIGI-HD-4X4 using high-quality HDMI cables.

5. For long distance destinations, connect one or two twisted pair cables per run to the DIGI-HD-4X4 (twisted pair receivers sold separately).



Recommended Twisted Pair Receivers

	Signals	Twisted Pair Cables Required
DIGI-HD-UHR2-R	HDMI	1
DIGI-HD-IR2-R	HDMI and IR	2

Recommended Twisted Pair Distances

	1080p	1080i	720p	480i/p
Cat 6 (low-skew)	150’	300’	300’	350’
Cat 6	110’	220’	220’	220’
Cat 5e	100’	200’	200’	200’

6. Connect the included 12 VDC power supply to the DIGI-HD-4X4.
7. If controlling remotely, connect RS232, Ethernet, or IR control cables.
8. Power-on the DIGI-HD-4X4.
9. Power-on the source and destination audio and video devices.

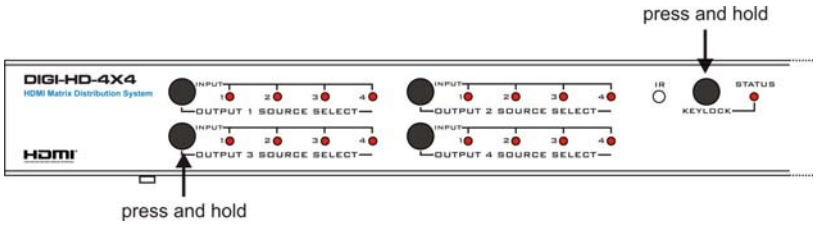
Twisted Pair Settings

The DIGI-HD-4X4 is compatible with both single twisted pair extenders (DIGI-HD-UHR2-R) and double twisted pair extenders (DIGI-HD-IR2-R). The different modes of operation are toggled through front panel key strokes.

1. The default setting of the DIGI-HD-4X4 is double twisted pair mode.

2. To switch the matrix into to single twisted pair mode, simultaneously press and hold the *Output 3* button and *Keylock* button for 3 seconds. The front panel LEDs will flash when the mode is engaged.

3. To switch the matrix back into to double twisted pair mode, simultaneously press and hold the *Output 3* button and *Keylock* button for 3 seconds. The front panel LEDs will flash when the mode is engaged.



Alternatively, the different modes of operation are toggled through Intelix *ComCtl* software. Please visit Intelix's online technical library to download the latest version of the software: http://www.intelix.com/tech_library/software.htm.

1. Download and install *ComCtl* on your computer.

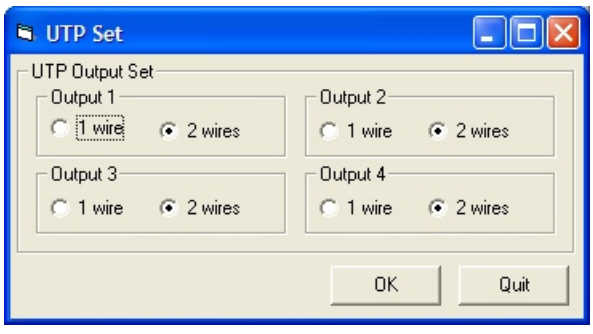
2. Launch the utility and verify you are connected to the matrix by pressing the *Status* button

3. Select the *UTP Set* button.

4. Select which outputs you wish to toggle.

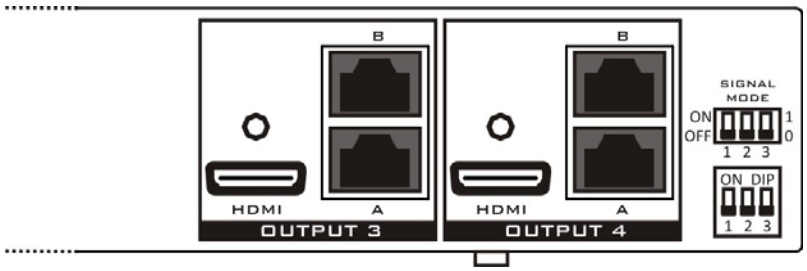
5. Select *OK* to enable the changes.

6. Select *Quit* to exit the window.



Signal Mode Settings: HDshāk Inside

The DIGI-HD-4X4 features HDshāk processing, which is activated and toggled through the signal mode DIP switches on the rear of the unit.



To change the signal mode:

1. Power off the DIGI-HD-4X4.
2. Set the DIP switches to the desired setting.
3. Power on the DIGI-HD-4X4.

DIP 1	DIP 2	DIP 3	EDID Function
off	off	off	**Dual Twisted Pair Mix Mode** The matrix mixes the EDID data of all destinations which choosing the same source. This data is then transmitted by the matrix to the source device. To copy and sync the EDID data, simultaneously press and hold the *Output 1* button and *Keylock* button for 3 seconds.
off	off	on	**EDID Copy Mode** EDID data is copied from the selected output and transmitted to the desired input. To copy and sync the EDID data, press and hold the output button of the selected output for 3 seconds.
off	on	off	**Factory Default: 1080p with stereo audio** The matrix is preset with EDID data for 1080p video and stereo audio.
off	on	on	**Factory Default: 1080i with stereo audio** The matrix is preset with EDID data for 1080i video and stereo audio.
on	off	off	**Factory Default: 1080p with 5.1 audio** The matrix is preset with EDID data for 1080p video and 5.1 audio.
on	off	on	**Factory Default: 1080p with 7.1 audio** The matrix is preset with EDID data for 1080p video and 7.1 audio.

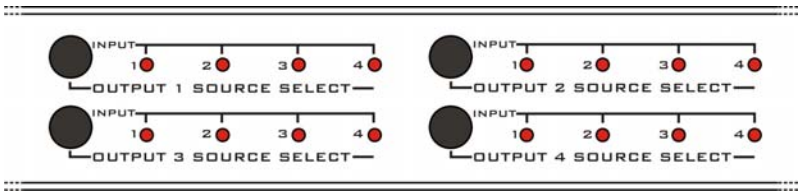
Operation

To operate the Intelix DIGI-HD-4X4 matrix switcher, please perform the following steps.

> **Note:** The DIGI-HD-4X4 features on-board memory. Settings are stored during power off and restored during power on.

Front Panel Control

The DIGI-HD-4X4 features front panel control for switching inputs to the various outputs. Each output is represented by a push toggle button. Selecting the button toggles what input is being routed to the output.



1. Determine if the DIGI-HD-4X4 front panel is locked. If the panel is locked, the keylock status indicator LED will be illuminated. If the panel is locked, unlock it by selecting the keylock selector button.

2. Determine which output you wish to change.

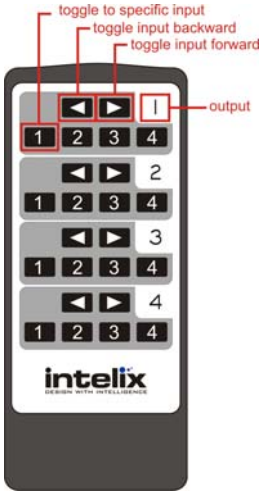
3. On the determined output, select the push toggle button. The input indicator will cycle through the inputs.

4. **Optional:** Once the desired input is selected, lock the front panel by selecting the keylock selector button.

> **Note:** The DIGI-HD-4X4 front panel will automatically lock after one minute of inactivity.

Included Remote Control

The DIGI-HD-4X4 includes a wireless remote control for switching inputs to the various outputs. Each output is represented by a bank of buttons on the remote control.



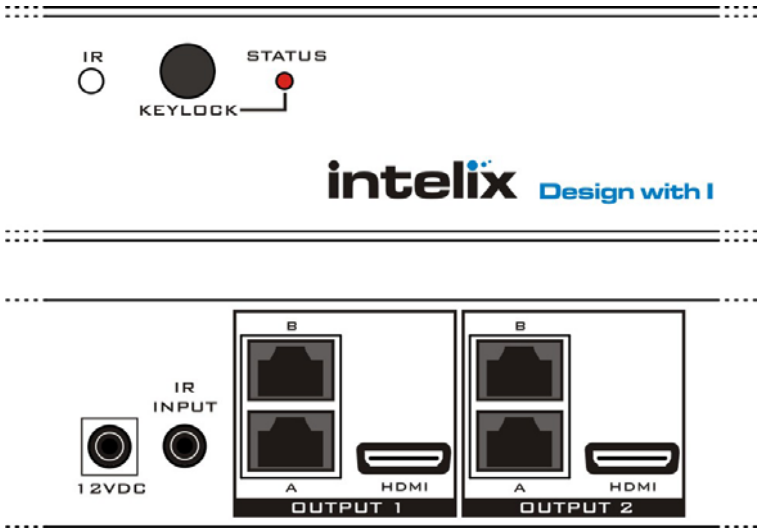
1. Determine which output you wish to change.

2. On the determined output, select the desired input number.

3. On the determined output, toggle through the inputs by selecting the *toggle input backward* or *toggle input forward* button.

IR Remote Control

The DIGI-HD-4X4 supports remote control through a front panel IR sensor and a rear panel 1/8" (3.5 mm) input jack.



1. If controlling the DIGI-HD-4X4 through the 1/8" (3.5 mm) input jack on the rear panel, connect the IR receiver (eye) directly to the matrix.

> **Note:** Operation of the rear panel IR input will disable the front panel IR sensor. **3rd party IR systems are not compatible.**

2. If controlling the DIGI-HD-4X4 through the IR sensor on the front panel, place an IR emitter directly over the front panel sensor.

IR Emitter Mounting Tips

- Surrounding electrical equipment may be producing high levels of IR noise. Plasma TVs and compact fluorescent lights are known polluters. Shield the outside of the emitter and the hardware's IR window with electrical tape.
- Verify the emitter is directly on the hardware's IR window and directly over the IR sensor. Operation may be intermittent if the emitter is too far away from the sensor.
- Clean the DIGI-HD-4X4 IR sensor window with an alcohol-based cleaner before applying the emitter to guarantee adhesion.
- Should the emitter not adhere to the DIGI-HD-4X4 sensor window, apply a small drop of glue to the adhesion pad on the emitter and re-apply.

DIGI-HD-4X4 IR Codes

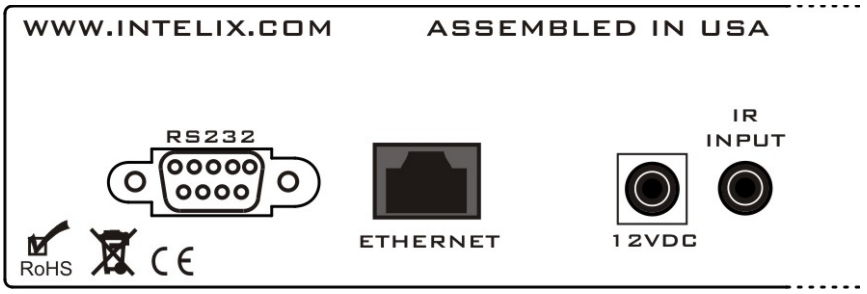
Misc. Commands	
Function	**Code**
Output 1 Next	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0016 05d5
Output 1 Previous	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Input 1 to Output 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0016 05d5
Input 2 to Output 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0016 05d5
Input 3 to Output 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0016 05d5
Input 4 to Output 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0016 05d5
Output 2 Next	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0016 05d5
Output 2 Previous	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0016 05d5
Input 1 to Output 2	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0016 05d5
Input 2 to Output 2	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0016 05d5
Input 3 to Output 2	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0016 05d5

Input 4 to Output 2	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Output 3 Next	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0016 05d5
Output 3 Previous	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0016 05d5
Input 1 to Output 3	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0016 05d5
Input 2 to Output 3	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Input 3 to Output 3	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Input 4 to Output 3	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Output 4 Next	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Output 4 Previous	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0016 05d5
Input 1 to Output 4	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5
Input 2 to Output 4	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0016 05d5

Input 3 to Output 4	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0016 05d5
Input 4 to Output 4	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0016 05d5

RS232 Remote Control

The DIGI-HD-4X4 supports remote control through a rear panel RS232 control port.



1. If controlling the DIGI-HD-4X4 through the RS232 control port on the rear panel, connect a straight-through serial cable directly to the matrix.

DIGI-HD-4X4 RS232 Settings

Settings	
Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	Hardware

DIGI-HD-4X4 RS232 Codes

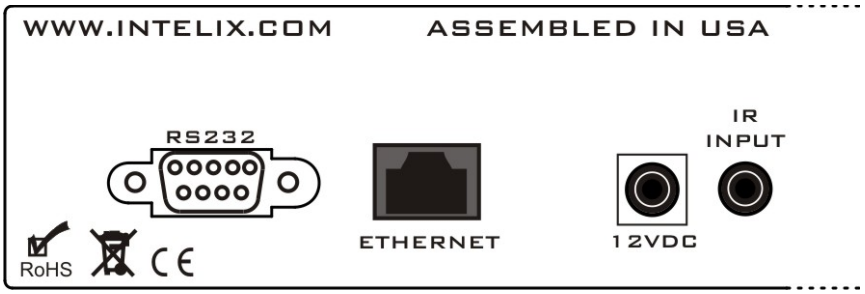
Misc. Commands		
Function	**Code**	**Return String**
Get Device Type	br <space>	ASCII string containing the letter “a” followed by the name of the device
Get Device Status	bc <space>	ASCII string in the format of: “\r\n” + “s1Ys2Ys3Ys4Y” + “\r\n” where Y is the input source being routed to each output. The value of Y maps as follows: 0 = input 1 1 = input 2 2 = input 3 3 = input 4 The outputs channels map as follows: s1 = output 1 s2 = output 2 s3 = output 3 s4 = output 4
Output 1 Commands		
Function	**Code**	**Return**
Toggle Input 1	cir 09\r	The updated status for output

Toggle Input 2	cir 1D\r	1. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 1 1 = input 2 2 = input 3 3 = input 4
Toggle Input 3	cir 1F\r	
Toggle Input 4	cir 0D\r	
Toggle Input Forward	cir 41\r	
Toggle Input Backward	cir 57\r	
Output 2 Commands		
Function	**Code**	**Return**
Toggle Input 1	cir 17\r	The updated status for output 2. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 1 1 = input 2 2 = input 3 3 = input 4
Toggle Input 2	cir 12\r	
Toggle Input 3	cir 59\r	
Toggle Input 4	cir 08\r	
Toggle Input Forward	cir 11\r	
Toggle Input Backward	cir 1B\r	
Output 3 Commands		
Function	**Code**	**Return**
Toggle Input 1	cir 5E\r	The updated status for output 3. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 1 1 = input 2 2 = input 3 3 = input 4
Toggle Input 2	cir 06\r	
Toggle Input 3	cir 05\r	
Toggle Input 4	cir 03\r	
Toggle Input Forward	cir 48\r	
Toggle Input Backward	cir 55\r	
Output 4 Commands		
Function	**Code**	**Return**
Toggle Input 1	cir 18\r	The updated status for output 4. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 1 1 = input 2 2 = input 3 3 = input 4
Toggle Input 2	cir 44\r	
Toggle Input 3	cir 0F\r	
Toggle Input 4	cir 51\r	
Toggle Input Forward	cir 40\r	
Toggle Input Backward	cir 07\r	

*Note: the space between *"cir"* and the code is required.

Ethernet Remote Control

The DIGI-HD-4X4 supports remote control through a rear panel Ethernet control port. The matrix accepts control messages when integrated to a local area network (LAN).



1. If controlling the DIGI-HD-4X4 through the Ethernet control port on the rear panel, connect an Ethernet cable directly to the matrix.

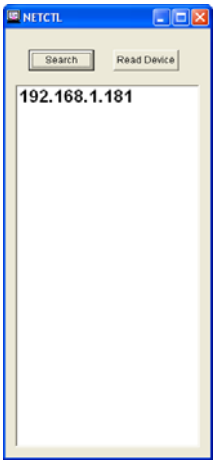
> **Note:** The DIGI-HD-4X4 will automatically be assigned an IP address when connected to a DHCP-enabled network.

2. Connect the opposite end of the Ethernet cable to a LAN port. Within 10 seconds of connecting the DIGI-HD-4X4 to the LAN, the yellow LED on the matrix's Ethernet port will stop blinking and the green LED will blink intermittently.

> **Connection Troubleshooting:** If the matrix does not respond with a green LED, please follow the steps below:
> - Verify the LAN has DHCP support.
> - Verify the LAN port is active.
> - The LAN port on the DIGI-HD-4X4 requires the use of an Ethernet crossover cable if the hub or switch that you are connecting to does not support *Automatic MDI/MDI-X*.
> - If you continue to have issues getting the matrix to connect to the LAN, verify LAN connectivity using a PC. If you can not get a PC to connect, contact a network administrator for assistance

Controlling the Matrix over a LAN

Intelix provides a diagnostic software utility, *NetCtl*, to determine the IP address of the DIGI-HD-4X4. Please visit Intelix's online technical library to download the latest version of the software: http://www.intelix.com/tech_library/software.htm.



1. Download and install *NetCtl* on your computer.

2. Launch the utility. Two buttons appear.

3. Click the *Search* button if no IP address is present. This will search the LAN for all Intelix DigiCat Series HDMI products.

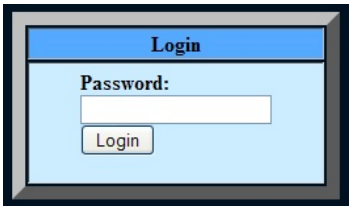
4. Note the IP address of the matrix.

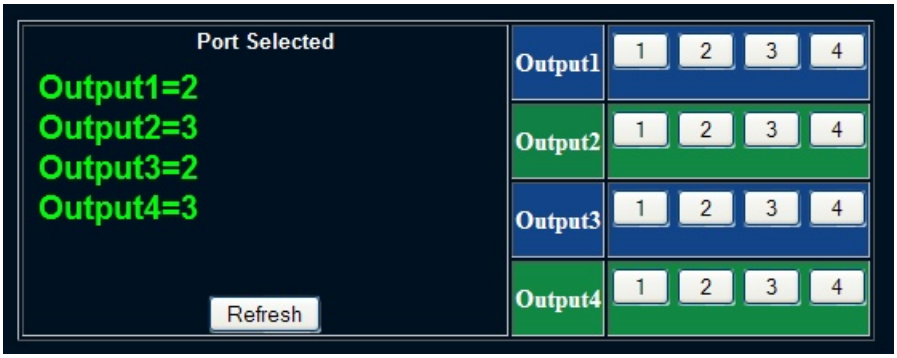
5. Open your web browser.

6. In the address field, enter the IP address of the desired matrix.

7. The default password for the DIGI-HD-4X4 is ten zeros (*0000000000*).

8. A welcome screen will launch, followed by the Intelix *Web Control Application*.

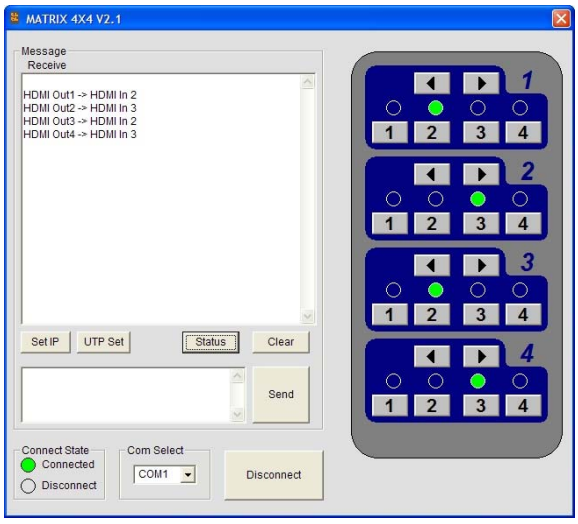




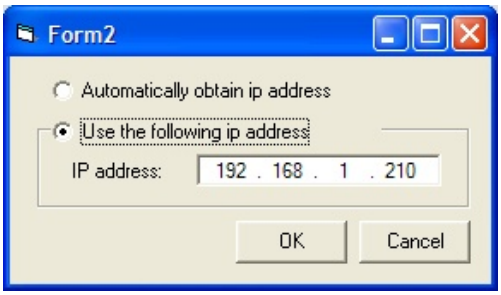
Static IP

As a DHCP enabled device, the DIGI-HD-4X4 will automatically receive an IP address. However, control systems require that devices have a *fixed* IP address on the network. Using the COMCTL utility, you can assign a static IP address to the DIGI-HD-4X4.

1. Open the COMCTL software and verify you are connected to the matrix by pressing the *Status* button.
2. Press the *Set IP* button.
3. Define your IP address and press OK. After 10 to 15 seconds, your IP address will be set.



4. Delete the old NETCTL.exe file in the folder with the NETCTL application.
5. Open the NETCTL software to verify your IP address.



Using 3rd-Party Software To Control the Matrix over a LAN

In addition to your web browser, you can also control the matrix using 3rd-party software from companies such as Control4, Lutron, Savant, AMX, Crestron Electronics, etc.

1. Follow the steps defined in the *Static IP* section above to assign a fixed IP address to your unit.
2. Verify that you are able to control your unit using your web brower as described above.
3. See *DIGI-HD-4X4 Ethernet Codes* below for the commands
4. Communication settings:
    - The host address for Ethernet commands is the unit's fixed IP address
    - The port number is port 23

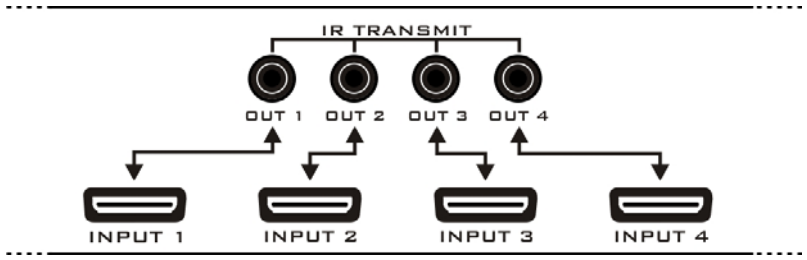
DIGI-HD-4X4 Ethernet Codes

Misc. Commands		
Function	**Code**	**Return String**
Get Device Type	Br	ASCII string containing the letter "a" followed by the device type
Get Device Status	Bc	ASCII string in the format of "\r\n" + "s1Ys2Ys3Ys4Y" + "\r\n" where Y is the input source being routed to each output. The value of Y maps as follows: 0 = input 4 1 = input 3 2 = input 2 3 = input 1 The outputs channels map as follows: s1 = output 1 s2 = output 2 s3 = output 3 s4 = output 4
Output 1 Commands		
Function	**Code**	**Return**
Toggle Input 1	a09	The updated status for output 1. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 4 1 = input 3 2 = input 2 3 = input 1
Toggle Input 2	a1D	
Toggle Input 3	a1F	
Toggle Input 4	a0D	
Toggle Input Forward	a41	
Toggle Input Backward	a57	
Output 2 Commands		
Function	**Code**	**Return**
Toggle Input 1	a17	The updated status for output 1. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 4 1 = input 3 2 = input 2 3 = input 1
Toggle Input 2	a12	
Toggle Input 3	a59	
Toggle Input 4	a08	
Toggle Input Forward	a11	
Toggle Input Backward	a1B	
Output 3 Commands		
Function	**Code**	**Return**
Toggle Input 1	a5E	The updated status for output 1. Represented as an ASCII string in the format of "sXY" where:
Toggle Input 2	a06	
Toggle Input 3	a05	

Toggle Input 4	a03	• X is a one based output channel • The value of Y maps as follows: 0 = input 4 1 = input 3 2 = input 2 3 = input 1
Toggle Input Forward	a48	
Toggle Input Backward	a55	
Output 4 Commands		
Function	**Code**	**Return**
Toggle Input 1	a18	The updated status for output 1. Represented as an ASCII string in the format of "sXY" where: • X is a one based output channel • The value of Y maps as follows: 0 = input 4 1 = input 3 2 = input 2 3 = input 1
Toggle Input 2	a44	
Toggle Input 3	a0F	
Toggle Input 4	a51	
Toggle Input Forward	a40	
Toggle Input Backward	a07	

IR Twisted Pair Pass-Through

When used with compatible Intelix receivers (DIGI-HD-IR2-R), the DIGI-HD-4X4 supports four pass-through IR channels which distribute remote IR commands from in-room controllers, up to 300 feet over twisted pair cable, and out of the matrix.



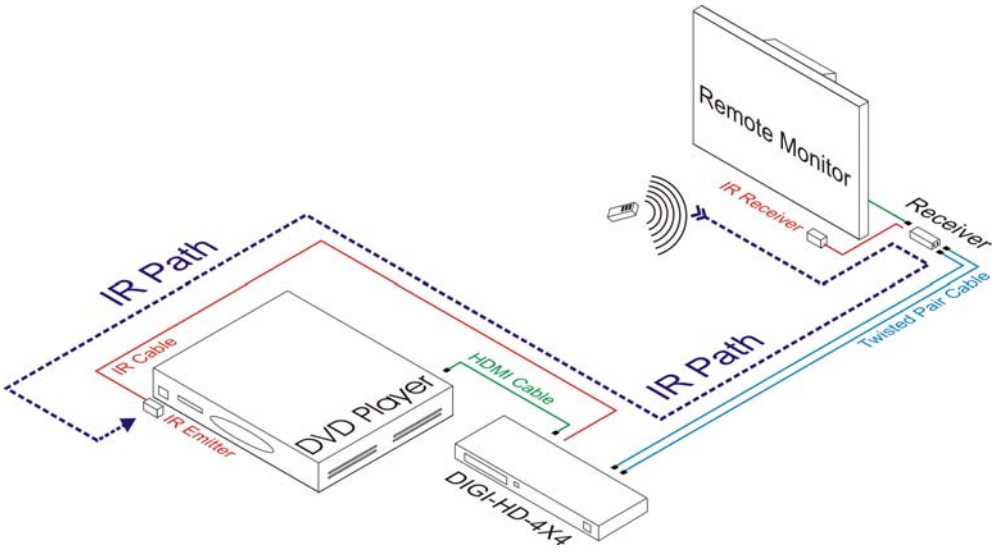
1. Determine which devices you wish to control via the IR pass-through outputs.

> **Note:** By default, IR transmit output one corresponds to HDMI input one, IR transmit output two corresponds to HDMI input two, IR transmit output three corresponds to HDMI input three, and IR transmit output four corresponds to HDMI input four. Therefore, the IR output port will control the source connected to the HDMI input.

2. Connect an IR cable to the desired IR transmit output port.

3. Repeat for up to four devices.

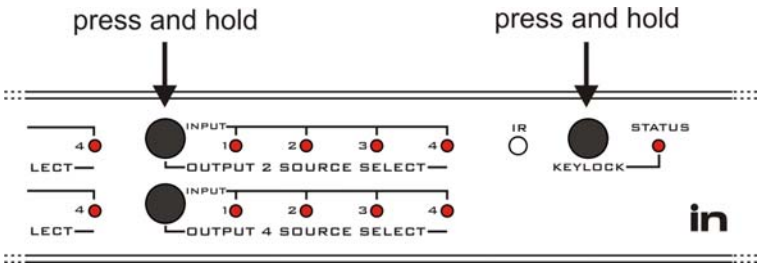
> **Note:** Optionally, IR commands for the matrix may be transmitted from a remote receive balun. For successful operation, the output of the IR transmit output port must be routed to the 1/8" (3.5 mm) IR rear panel connector or the front panel IR sensor.



4. All of the remote receive baluns transmit IR commands from the included remote control, thereby allowing remote control of the matrix itself.

Note: If the IR codes for a pass-through signal conflict with the internal IR codes of the matrix, the processing of remote matrix IR commands may be disabled.

Simultaneously press and hold the *Output 2 Source Select* and *Keylock* buttons for three seconds. A single flash of the front panel source select LEDs indicates the remote IR commands are enabled. A double flash of the front panel source select LEDs indicates the remote IR commands are disabled.



Troubleshooting & Frequently Asked Questions

My destination is capable of Dolby TrueHD® but it's not receiving an HD signal from the Blu-ray® player.
The DIGI-HD-4X4 may not be set in HDMI 1.3 (Dolby TrueHD®) compatible mode. Switch the matrix to HDMI 1.3 mode by following the steps on page 11.

> **Note:** Not all Blu-ray® discs are mastered with Dolby TrueHD ® audio. Please verify your movie is encoded with this format.

My destination supports a resolution other than 1080p, but it's receiving a 1080p signal.
The DIGI-HD-4X4 supports device learning; i.e., the matrix can query connected sources and destinations and learn and store their individual resolutions.

1. Verify the desired destination is connected to the DIGI-HD-4X4 matrix via an HDMI cable. Verify the signal DIP switches are configured for EDID copy mode (see *Installation* section).

2. Route the signal from the desired source to the desired destination.

3. Disconnect all other sources and destinations from the matrix.

4. Press and hold the *Output Source Select* button of the desired channel for five seconds. The front panel source select LEDs will illuminate and flash during mode transition.

5. After the LEDs cease flashing, release the *Output Source Select* button. The DIGI-HD-4X4 has now learned and stored your devices' settings.

> **Note:** The DIGI-HD-4X4 features on-board memory. Settings are stored during power off and restored during power on.

How can I tell if my matrix is connected to the network?
The matrix is controllable via IP; however, the unit must be properly connected to the network.

- If you see a solid amber LED with a blinking green LED, the unit is correctly connected to the network.

- If you see a blinking amber LED and no green LED, the unit is not communicating with the network.

My Ethernet port is not physically connecting to the network.

There are several external reasons why the matrix might not be connecting to the network.

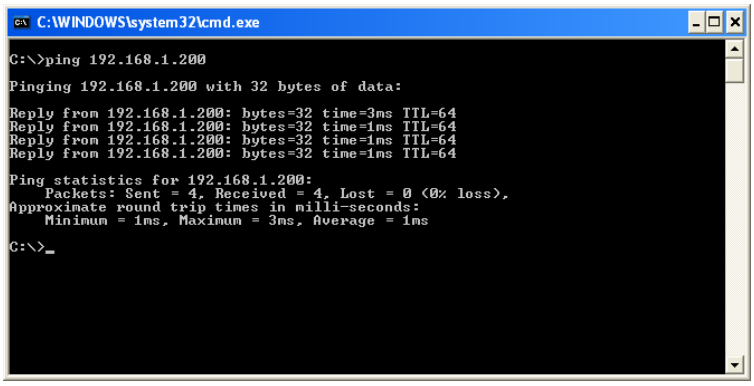
1. Try a different Ethernet cable to verify the cable is operational.

2. Try connecting a computer to the network port to verify the port is active/operational.

What is the IP address of my matrix?

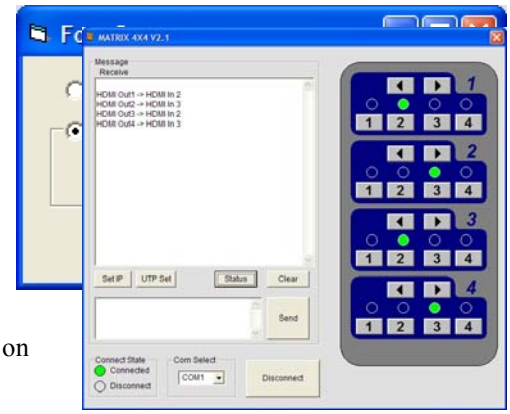
Run the *Intelix DIGI-HDMI* software from the *Intelix Installation CD* or from the Intelix website. Once connected, the IP address of your unit will be displayed in the title bar of the application.

Note: The Ping utility on a PC will verify that your matrix is accessible on the network.


C:\WINDOWS\system32\cmd.exe
C:\>ping 192.168.1.200
Pinging 192.168.1.200 with 32 bytes of data:
Reply from 192.168.1.200: bytes=32 time=3ms TTL=64
Reply from 192.168.1.200: bytes=32 time=1ms TTL=64
Reply from 192.168.1.200: bytes=32 time=1ms TTL=64
Reply from 192.168.1.200: bytes=32 time=1ms TTL=64
Ping statistics for 192.168.1.200:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 3ms, Average = 1ms
C:\>

How do I assign a static IP address to my matrix?

As a DHCP enabled device, the DIGI-HD-4X4 will automatically receive an IP address. However, control systems typically require devices to have a fixed IP address. The Intelix *ComCTL* utility allows the DIGI-HD-4X4 to have a static IP address.



1. Download and install *ComCtl* on your computer.

2. Launch the utility and verify you are connected to the matrix by pressing the *Status* button

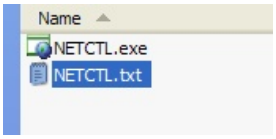
3. Select the *Set IP* button.

4. Define your IP address and select *OK*.

5. After 15 seconds your IP address will be configured.

6. Locate the folder on your computer with the Intelix *NetCTL.txt* file. Delete the text file.

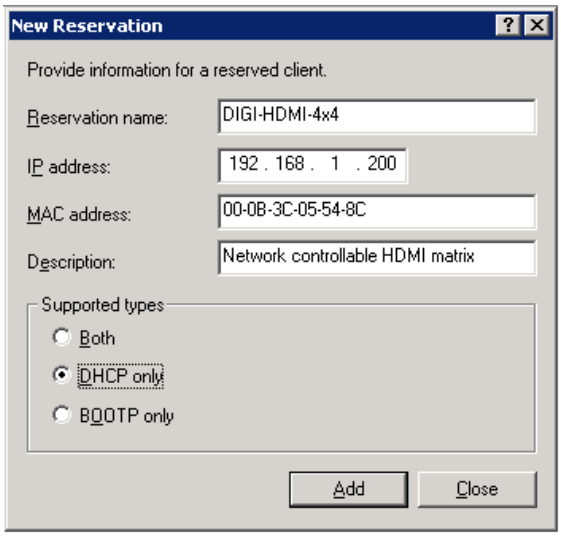
7. Open the *NetCTL.exe* application and verify your IP address.



What is the MAC address of my matrix?

1. Run the *Intelix DIGI-HDMI COMCTL* software from the *Intelix Installation CD* or from the Intelix website.

2. After successfully connecting to your unit, open the *NetCtl.txt* text file which is located in the same directly as the *DIGI-HDMI* software



(*NetCtl.exe)*. This file will open with your PC's *Notepad* application (*Notepad.exe*).

3. The first 17 characters in the file is the MAC address of your unit; e.g. 00-0B-3C-05-54-8C. Record this MAC address, it will useful when reserving a fixed IP address for your matrix.

> **Note:** If your system supports a *Name* and *Description* field in the DHCP reservation, Intelix recommends that you fill these fields with a descriptive name that will allow the network administer to easily and quickly identify the unit.

4. After you reserve an IP address for your matrix, you will need to power cycle the unit. This will obtain the new, reserved IP address.

> **Note:** To verify the matrix is using the desired IP address, Intelix recommends Pinging the unit (see above).

Technical Specifications

Vertical Frequency Range	24 - 60 Hz
Output Video	HDMI 1.2/HDMI 1.3
Signaling Rate	2.25 gigabits per second
Input DDC Signal	5.0 volts p-p (TTL)
Input Video Signal	0.5 – 1.0 volts p-p
Video Amplifier Bandwidth	255 MHz
Input Connectors	Four (4) HDMI type A connectors
Output Connectors	Four (4) HDMI type A connectors with locking screws Four (4) dual twisted pair connectors
Supported Video Resolutions	480i, 480p, 576i, 576p, 720p, 1080i, 1080p 8, 10, 12 bits per channel
Supported Audio	Dolby TrueHD 7.1, Dolby TrueHD 5.1, Dolby Digital 5.1 DTS-HD Master Audio 7.1, DTS-HD Master Audio 5.1, DTS 5.1, PCM 2.0, PCM 5.1
Status Indicators	Front panel input to output LEDs Front panel keylock LED
Operating Temperature Range	-41 to 95 degrees F -5 to 35 degrees C
Operating Humidity Range	5 to 90% non-condensing
Included Accessories	One (1) 12 VDC power supply Two (2) 19” rack mounting ears One (1) remote control Four (4) shelf mount feet (1) IR receiver (4) IR emitters
Control	Front panel channel, RS232, IR and Ethernet
Dimensions	17.375” x 8.375” x 1.625” 1 RU
Enclosure	Black metal
Max Power Consumption	11 watts
Power	12 VDC
Regulatory	CE, RoHS
Compatible Intelix Twisted Pair Receivers	DIGI-HD-UHR2-R DIGI-HD-IR2-R
Shipping Weight	7.1 lbs
Intelix Part Number	DIGI-HD-4X4
Warranty	2 years

Warranty

Intelix warrants to the original purchaser of new and B-stock products that the product will be free from defects in material and workmanship for a period of 2 years from the date of purchase from an authorized Intelix reseller, subject to the terms and conditions set forth below.

All Intelix products are guaranteed against malfunction due to defects in materials or workmanship for two years after date of purchase. If a malfunction does occur during the specified period, the defective product will be repaired or replaced at Intelix's option without charge. As a condition to receiving the benefits of this warranty, you must provide Intelix with documentation that establishes you were the original purchaser of the Intelix products. If you are not the original purchaser, the Intelix equipment must be returned to the original purchaser or another authorized Intelix reseller accompanied by dated documentation of proof of purchase. Please contact Intelix for a list of authorized resellers.

This warranty does not cover: 1) Malfunction resulting from use of the product other than as specified in the user manual; 2) Installation specific wiring; 3) Malfunction resulting from abuse or misuse of the product; 4) Exterior chassis appearance; 5) Malfunction occurring after repairs have been made by anyone other than Intelix or any of its authorized service representatives; 6) Acts of nature; 7) Optional software upgrades or updates.

This warranty will be void if the product's serial number or quality control sticker has been removed or defaced, or if the product has been altered, subjected to damage or abuse, repaired by any person not authorized by Intelix to make repairs, or installed in any manner that does not comply with Intelix's recommendations.

This warranty is in lieu of all other warranties, express or implied. Intelix disclaims all other warranties, express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.

No agent or reseller of Intelix is authorized to modify this warranty or to make additional warranties on behalf of Intelix. Statements, representations or warranties made by any party other than Intelix does not constitute warranties by Intelix. Intelix shall not be responsible or liable for any statement, representation or warranty made by any other person or party.

Warranty service is only offered after a return authorization (RA) number has been generated by an authorized Intelix factory representative. If you purchased the Intelix goods directly from Intelix, please contact Intelix Applications for an RA number. If you purchased the Intelix good from an authorized Intelix reseller, please contact your authorized reseller for an RA number. This RA number must be clearly referenced on the outside of all packages shipped to Intelix. Intelix Applications must be contacted prior to any return of goods; all return shipments received by Intelix without an RA number will be refused. All shipments must be received within 30 days from the RA number issue date.

At Intelix's option, Intelix will advance replace failing Intelix goods on approved accounts within 90 days of shipment from Intelix. The advanced replaced goods will be invoiced and payment will be due under standard terms if

the failing goods are not received within 14 days of the advanced replacement shipment.

Intelix will match shipping method for units still under warranty. If a unit which is out of warranty needs repair, the dealer must pay for shipping, replacement parts, and a fixed $100/hr* labor fee. Normal Intelix credit terms apply to billable repairs. If a unit is returned and found to work according to factory specifications, a $100 service fee* is billed regardless of warranty status. All repairs are made in a reasonably quoted amount of time; a rush shipment fee of $50* may apply to repairs needing a quicker than usual turn-around time.

All goods outside of the standard warranty period which are repaired by Intelix are covered by an additional 90 day warranty. This 90 day warranty only covers the specific repaired components. All other standard warranty limitations apply.

**Or current applicable rate/fee.*
Warranty terms and conditions subject to change and do not apply outside of United States and Canada.
Intelix Warranty is subject to change. Please contact the factory for the most up-to-date information.

Thank you for your purchase.

We appreciate your business. Please contact us with your questions and comments.

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